



*The Radio Amateur Society
of Australia*

QTC Magazine

February 2026

**The Forgotten Radio Pioneer
Reginald Fessenden**

In This Issue:

**Mirror Check - What Sort of Amateur are You?
Take a Long Hard Look**

Things We Can't See - Infra Red Images

The VK3RASA Reverse Beacon Upgrade

Dits n Dahs - CW Action

ZL News

Contests

Club Support, and more



In This Issue:

Editorial	3
From the President	4
The Forgotten Radio Pioneer Reginald Fessenden	7
Antennapalooza is back in 2026	10
QRM.GURU	10
Resources for New Amateurs	11
Dits n Dahs	12
News from ZL	14
Reverse Beacon Node Upgrade	16
Foundation Classes And Foundation Exams Increasingly Popular	17
A Fresh Look At The World Of Infra Red	18
RASA DX Contest 2025 Prize - Begali paddle	23
Southern Electronics Group Buy/ Swap/Sell	25
Promote Your Club's Training Courses	26
Advertise Club Activities	26
DX Happenings	27
Contesting	28

Publication Information

Contact: info@vkradioamateurs.org
Website: <http://vkradioamateurs.org>

QTC is a publication of The Radio Amateur Society of Australia

ABN: 64 687 227 446 (RASA)

QTC is published monthly. If you would like to receive your copy you can either visit our web site to download or send us an email and we'll put you on our distribution list.

You are welcome to join RASA or simply make a donation to support our work.

QTC is Copyright © 2025

Cover picture credit:

Reginald Fessenden and Fessenden Oscillator, c.1914. Public Domain.

Contributing Items For QTCMagazine

QTC Magazine welcomes contributions for future editions. When planning to submit an article, please read our submission guidelines first.

Following the guidelines will save you and the editing team a lot of time and effort. The guidelines are [HERE](#)



QTC From the Editor



I did something several weeks ago that sort of stood me on my head. I enrolled in a beginners class to learn CW - Morse Code. I was skeptical about my ability to learn at that rate, at my age. However I enrolled and am amazed by my progress. Yes, I have my struggles with my sometimes recalcitrant motor skills. They thought they were allowed to retire too. But they are back to work.

It goes to show, that in this hobby you should never get bored. There's always something else that you can learn, or a skill you can revive.

One of the joys of being involved with the production of a magazine such as QTC is seeing the inventiveness of people around the place, and also the depth of feeling about the future of our wonderful hobby.

You see it expressed in the articles in QTC this month. Paul VK2APA asks us to take a serious look in the mirror and to recognise what sort of Amateur we are. Is what we are doing or saying within the hobby helpful, building up the hobby, or is it not helpful, or destructive?

Ian VK3BUF gives us a whimsical but useful tour of an infrared camera talking about things we can't see, and how useful it is when you can.

In another contribution from Paul, we are reminded of a forgotten pioneer of Amateur Radio, Reginald Fessenden, a pioneer of voice transmissions over radio. It's a good read. Images of Fessenden appear on the front cover of QTC this month.

Ian gives an account of the upgrade works to the VK3RASA node of the Reverse Beacon Network, one of four in Australia. Meanwhile he conducts Foundation courses and exams - there's a story on that.

Also in this edition are the regular columns of Dits n Dahs, ZL News, DX Happenings and Contests.

And finally - we accept contributed articles for QTC - see page two. We're also seeking expressions of interest to assist with the magazine. Give us a call.



Radio for the Curious & Creative

The Radio Amateur Society of Australia

From the President

Paul Anslow VK2APA



Mirror Check: Are You a Promoter or a Saboteur of Amateur Radio?

In 2026, amateur radio finds itself in a unique position. We have more technology at our fingertips than ever—AI noise reduction, satellite mesh networks, and global SDR connectivity, to name a few. Yet, the greatest threat to the hobby isn't a lack of bandwidth or the rise of the internet; it is the **culture** we and our clubs, societies and national bodies project on (and off) the airwaves.

Every time you press the PTT (Push-To-Talk) button, or interact with others off air, you are acting as either a **Promoter** who grows the hobby or a **Saboteur** who inadvertently helps it wither.

The Promoter: The Modern "Elmer"

A promoter of Amateur Radio understands that the hobby is bigger than personal preferences.

A promoter understands that for Amateur Radio to thrive it must be pitched to a changing world as a relevant modern pursuit and what attracted new Amateurs in the past may no longer work.

Promoters welcome newcomers, encourage learning, and share knowledge freely. They remember what it was like to make their first contact, struggle with antennas, or nervously key a microphone. Instead of criticising operating mistakes or dismissing new technologies, promoters mentor and guide. They see digital modes, voice, CW, satellites, contesting, and experimentation not as competing interests, but as equally valid expressions of the Amateur Service.

A promoter understands that for amateur radio to survive, it must be a "big tent." They don't just tolerate new technology; they champion it. Promoters are characterised by:

- **Radical Inclusivity:** They welcome the Foundation Amateur with a \$40 handheld radio with the same enthusiasm as the Advanced Amateur with a \$10,000+ contest or Super DX station.
- **Technological Curiosity:** Instead of complaining that FT8 "isn't real radio," they explore how digital modes can push the boundaries of weak-signal propagation.
- **Public Presence:** They participate in POTA (Parks On The Air) or public events, inviting curious passersby to see what a modern station looks like.
- **Mentorship (Elmering):** They spend as much time listening and teaching as they do transmitting.



Promoters also understand the importance of public perception. How amateurs conduct themselves on the air, in public, and online directly influences how Amateur Radio is viewed by regulators, and the general public. Courtesy, professionalism, and cooperation strengthens the case for protecting the amateur spectrum and makes Amateurs proud to be a part of the hobby.

The Saboteur: The Accidental Gatekeeper

In contrast, a saboteur often believes they are “protecting standards” or “defending tradition,” but their actions have the opposite effect. Saboteurs discourage new operators by mocking their questions, belittling their operating style, or declaring that certain modes or bands are “not real radio.” On the air, this attitude can manifest as deliberate interference, poor operating practices, or aggressive behaviour that drives others away. Off the air, this behaviour appears in online forums and club meetings where negativity outweighs encouragement.

One of the most damaging forms of sabotage is resistance to change. Amateur Radio has always evolved—spark to CW, AM to SSB, analogue to digital. Dismissing new modes, internet-linked systems, or software-defined radios ignores the very spirit of experimentation that defines the hobby. Promoters recognise that innovation attracts new participants and keeps Amateur Radio relevant, while saboteurs cling to the past and alienate those who bring fresh ideas and new energy.

Most saboteurs don't realise they are hurting the hobby. Often, they believe they are “protecting the standards” of the past. However, in a rapidly changing world, gate-keeping is a slow-acting poison. Saboteurs are characterised by:

- **Band Cops:** Snapping at a newcomer for a minor procedural error or an “improper” signal, rather than offering a friendly tip off-air.
- **The Exclusive Net:** Ignoring newcomers who wish to join in.
- **The “Gold Standard” Fallacy:** Insisting that Morse code (CW) is the only “true” way to be a ham, effectively telling 80% of the modern community they don't belong.
- **On-Air Negativity:** Spending hours discussing health ailments, political grievances, or complaining about “the state of the bands”. To a listener, this makes the hobby sound like a chore rather than a joy.
- **Sabotage:** Active causing and encouraging on-air conflicts, intentional jamming, or hostile behavior create an image of disorder and irresponsibility—undermining decades of goodwill.
- **Resistance to Change:** Mocking those who use internet-linked repeaters or remote stations, ignoring that these tools are what keep many urban hams active.

Your Local Club and Organisation: Where do they fit in?

Clubs and organisations provide another clear dividing line. Promoters actively support clubs, training programs, field days, along with activities and events. They volunteer, teach, and inspire. They encourage inclusiveness and practice and promote a healthy club culture.



Saboteurs complain that clubs are “dying” or “pointless” while offering no solutions and refusing to participate. They are indifferent to new people and innovation. Some may fall into the extreme culture of bullying or harassment.

Another trap is where a club or organisation becomes elitist and discourages the work of others. Some treat their club or organisation as their personal project or plaything to the exclusion of others and to the detriment of Amateur Radio.

The future of Amateur Radio depends on positive and active involvement, not criticism.

Promoter vs. Saboteur: A Quick Comparison

Feature	The Promotor	The Saboteur
New People	“Welcome, let me introduce you to...”	Ignore and stay in your clique.
New Tech	"Let's see how we can use this!"	"That's not real radio."
Mistakes	"No worries, here's a quick tip."	"Read the manual and get off the air."
Morse Code	"A beautiful art form to learn."	"If you don't know it, you're a LID."
The Future	Bright, digital, and mobile.	Dying and nostalgic.

Why It Matters

In 2026, the spectrum is a billion-dollar commodity. Commercial interests are always looking at "underutilised" amateur bands. If our frequencies appear empty—or worse, filled only with exclusionary bickering—we lose our moral and political claim to them.

Every contact is a marketing pitch for the hobby. When a young person tunes in on a WebSDR for the first time, what do they hear? Do they hear a vibrant, high-tech community solving problems? Or do they hear a closed club of whingers that doesn't want them there?

The Challenge

This month, try to be a deliberate promoter.

Find a new callsign on the air, or at your club, and welcome them. If you hear someone struggling with their settings, offer a hand instead of a critique. I'm sure you get the idea... The future of Amateur Radio is literally in your hands.

73

Paul

VK2APA

QTC February 2026

[Return to Table of Contents](#)

Page 6

The Forgotten Radio Pioneer Reginald Fessenden

On Christmas Eve in 1906, radio operators on ships scattered across the Atlantic and Caribbean were startled to hear something impossible. For years, their headsets had hummed with the harsh, rhythmic clicking of Morse code—the "dots and dashes" of Guglielmo Marconi's wireless telegraphy. But that night,



the rhythmic sparks were replaced by something human: the haunting strain of a violin playing "O Holy Night.", followed by a man's voice reading from the Gospel of Luke.

The man behind that voice was Reginald Aubrey Fessenden, a Canadian inventor who did what the world's most famous scientists thought was impossible. While others were content with wireless telegraphy, Fessenden was obsessed with wireless telephony—the dream of sending the human voice through thin air.

The End of the Spark: Fessenden's Big Idea

In the late 19th century, the "spark-gap" transmitter was the gold standard. It worked by creating massive electrical sparks that sent out bursts of electromagnetic energy. It was effective for Morse code, but it was noisy and "dirty" in terms of signal quality. To Fessenden, using a spark to carry a voice was like trying to transmit a symphony by banging on a trash can.

Fessenden proposed a radical alternative: the Continuous Wave (CW). He theorised that if you could create a smooth, uninterrupted radio wave and "mould" it with the vibrations of a human voice, you could transmit sound perfectly. This technique, known as Amplitude Modulation (AM), remains the foundation of broadcast radio today.

1900: The First Wireless "Hello"

Six years before his famous Christmas broadcast, Fessenden achieved a quieter, but arguably more significant, milestone. On December 23, 1900, standing on Cobb Island in the Potomac River, he spoke into a microphone:

"One, two, three, four. Is it snowing where you are, Mr. Thiessen? If it is, telegraph back and let me know."

His assistant, located a mile away, heard the words through the static. It was the first time in human history that an intelligible voice had been transmitted via radio waves.

The 1906 "Christmas Miracle"

Fessenden's crowning achievement took place at Brant Rock, Massachusetts. To make his vision a reality, he had to commission a massive, high-speed alternator (essentially a giant spinning generator) from GE that could spin fast enough to create the high-frequency waves he needed.

The World's First Radio Program

On December 24, 1906, Fessenden broadcast a pre-announced program to ships of the United Fruit Company from Boston with the assistance of his wife Helen, her friend and his helper.

-. . . / -. . . -. . . -. . . -. . . / -. . . -. . . / -. . . -. . . -. . . -. . . -. . . / -. . . -. . . / -. . . -. . .
- / -. . -. . . -. . . -. . . / -. . . -. . . -. . . -. . . -. . .

"Be prepared for something of great interest to follow."

One cannot imagine what the Radio Operators on duty aboard the ships moored in Boston Harbour and at sea must have thought, as they could hardly believe their own ears upon hearing the clear sounds of voices and music.

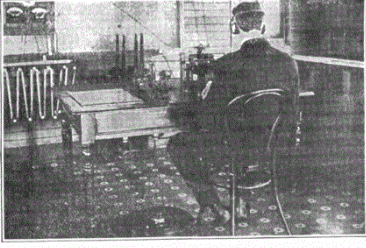
The lineup included:

- A recording of Handel's Largo on an Edison phonograph.
- Fessenden himself playing the violin "O Holy Night." and then sang "Adore and Be Still" by Charles Gounod.
- A Bible reading "Glory to God in the highest and on earth peace to men of good will" (Luke 2:14)
- A closing wish for a "Merry Christmas."

There is an unsubstantiated claim that the broadcast had been heard as far south as Norfolk, Virginia.

FESSENDEN Wireless Telegraph System

NATIONAL ELECTRIC SIGNALLING COMPANY.



As the result of five years' experimental work, including a working test of a full year, this system is now put on the market as being equal as regards speed and reliability to manually operated wire lines, while first cost and maintenance are only a small fraction of that of wire lines.

This system uses no coherer, the receiver consisting of a minute cylinder of liquid, whose resistance is lowered by the heating effect of the electric waves. As it is approximately 25 to 50 times as sensitive as the Solari coherer, it requires less energy for given distances, and is admirably adapted to sharp tuning, and overcoming interferences and difficulties from atmospheric disturbances.

This system does not infringe the patents of any other company, and the operation of the apparatus is guaranteed.

Telegraphic sets for working up to 150 miles overland or to 350 miles over sea are now standardised and can be supplied from stock or on short notice. Sets can be tested by purchaser before delivery between the Company's test stations, approximately 90 miles apart overland, or between the Company's marine stations.

Fessenden Wireless Telegraph Station Working between New York and Philadelphia.

Sets for working over longer distances supplied at short notice. the Company's test stations, approximately 90 miles apart overland, or between the Company's marine stations.

No expert knowledge needed, as any telegraph operator can handle after a week's practice.

NATIONAL ELECTRIC SIGNALLING COMPANY,

WASHINGTON, D.C., U.S.A.

A Legacy Beyond the Airwaves

Despite his genius, Fessenden is often overshadowed by Marconi. The press was more interested in the press savvy Italian who knew how to hold the public's attention, whereas Fessenden was not known for his people skills and would hide out in his laboratory. He was a brilliant scientist but a poor businessman, frequently embroiled in legal battles over his patents. However, his contributions to modern life are staggering. Beyond telephony and AM radio, he holds over 500 patents, including:

Invention	Impact
The Heterodyne Principle	A fundamental method for mixing frequencies used in almost every modern radio and TV receiver.
Fessenden's electrolytic detector	A fundamental method for mixing frequencies used in almost every modern radio and TV receiver.
The Fessenden Oscillator	An early form of Sonar used to detect icebergs and submarines.
The Fathometer	A device for measuring the depth of water, revolutionizing maritime safety.
Microfilm	Fessenden developed an early version of the technology used for decades to archive documents.

Reginald Fessenden died in 1932 in Bermuda. While he didn't achieve the same fame as Edison or Marconi during his life, every time you hear a voice on the radio or a podcast on your phone, you are experiencing the direct evolution of his "continuous wave." He was the man who taught the world to talk without wires.

In the stone of a snow-white memorial erected, in time, above his vault in St. Mark's Church Cemetery, Bermuda, are inscribed these words:

His mind illuminated the past
And the future
And wrought greatly
For the present

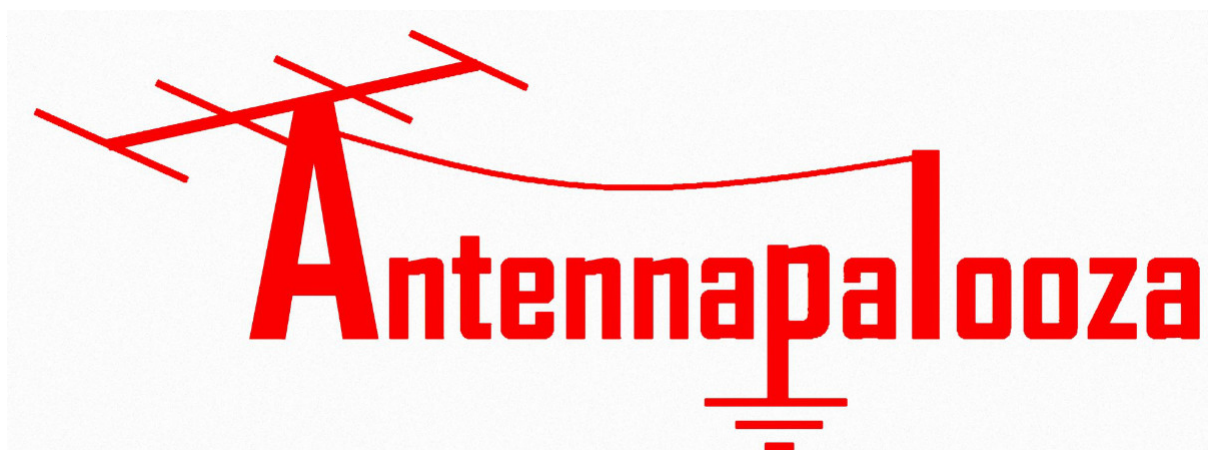
and beneath, in the picture
writings of the ancient Egyptians:

*I am yesterday and I know
tomorrow*

Fessenden: The Brilliant Inventor
<https://www.youtube.com/watch?v=XBCobOrkQFE>



This video provides a deeper look into Fessenden's life, his technical innovations, and the challenges he faced in commercialising his inventions.



Antennapalooza is back in 2026.
It's happening on Sat/Sun the 18th and 19th of April.

This is the tenth such event. For a change of pace, the theme for 2026 will be about POWER. How power reaches our homes, how we organise power in our shacks, battery & portable power and what's new with Solar. We will have a series of speakers on related topics under the pavilion.

We are also privileged to have a guest presenter from Outlook Industries, a Gippsland manufacturer who will demonstrate radio controlled surveillance carts that have been developed for the Australian army. This equipment uses a unique combination of power strategies to give long operational life in the field.



We hope to see many visitors to the upcoming 2026 event. As in the past, it will take place in Drouin West and the details are on the [Antennapalooza website](#)

Come for an hour or come for the whole weekend with your caravan and camping gear. Attendance is free. No bookings are required.



QRM.GURU

QRM.guru has been developed to assist Radio Amateurs in dealing with RF noise and interference. This is an educational and reference resource. The information provided on these pages is not unique or regarded as a new discovery. QRM.guru is a volunteer powered resource.

Visit the [QRM.GURU website](#) to learn how to track down and minimise QRM in your shack.

Resources for New Amateurs



Your Gateway to the World of Amateur Radio

Amateur Radio provides virtually unlimited opportunities for you to explore the technical, scientific and social aspects of this truly global hobby

A Free Amateur Radio Learning Resource

This multimedia learning resource has been developed by RASA and is provided free of charge.



Like all RASA resources, the FLSG is free, and we encourage you to share it with your club, friends and others who may be interested in becoming a radio amateur.

This resource is backed up by our other award-winning resources, including QRM Guru, the Welcome to Amateur Radio Guidebook, and VKRegs.

This resource is unique. Not only is it up-to-date with the latest information on the Class Licence, but it includes tailored instructional videos, links to useful websites, and extra "good to know" learning opportunities. All of this is backed up by a Knowledge Base with an integrated email-based helpdesk. So if you have feedback or questions, you can easily raise a ticket.

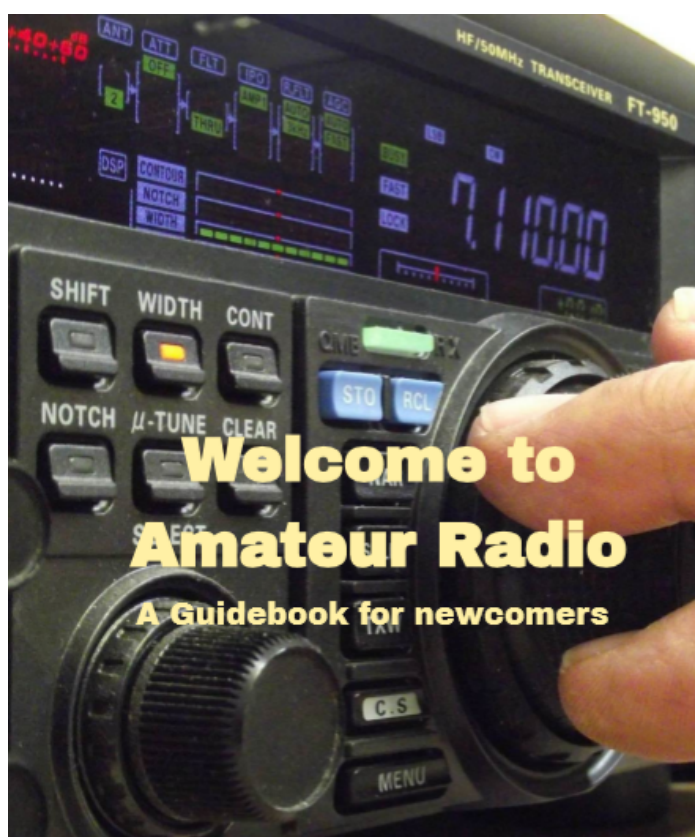
The FLSG is available [HERE](#)

The RASA Welcome to Amateur Radio Guidebook provides an introduction to our hobby for new Foundation class amateurs.

The book is published digitally. It contains many hotlinks to external websites with useful information.

It is available as an Acrobat pdf file suitable for reading on a PC or tablet. It can be printed if required.

Download the guidebook [HERE](#).





Dits n Dahs

By Chris VK3QB

Fists Down Under

The people at FDU thought it was time to reset the Friday night QSO Party with something fresh. So, here it is. The Wednesday Wrap. Get on 160, 80, 40 or 20 metres between 0900-1100UTC and have as many QSOs as you can. Try to exchange more than just 599 tu... practice ragchew skills or just build your on-air confidence.

Start off around the FDU frequencies xx.028 (1818 kHz) and move up or down as required.

Each week you can record your results on this [Google Form](#)

and I'll publish the results in this newsletter, on Facebook and on the club's website. Don't forget to add some soapbox comments: be it your favourite QSO, longest QSO, new DX, or a new paddle/key. There will be random prizes at the end of each month for the members who log more than 10 QSOs.

If you'd like feedback on your morse code or are looking for hints and tips, this is a friendly and fun place to start. We'll liaise on the club's Discord channel if you are having trouble getting QSOs, or want a sked on a particular band. Follow this link to connect on [Discord](#).

If you have any questions or suggestions, drop me an email. vk3qb(at)Hotmail.com.

The CWops callsign VK1CWO will be active. If you'd like any feedback on your code or have other queries, just send an email to vk1cwo(at)outlook.com

Morse Code Zoom Sessions

This month I'll be talking with Graeme VK5GG and focusing on how he's already on 140 slots and over 50DXCC (30DXCC QRP) for 2026 . Graeme operates a basic HF station with an Icom 7300 and a DX-Commander antenna. Come along and listen to this interview, ask questions, and meet like-minded Morse Code ops.

Topic: CW Zoom Session - VK5GG

Time: 18 Feb 2026 08:30 Universal Time UTC

Visit [this site for](#) the latest information and Zoom links.

FDU DXCC Leagues Contest/Award

2025 was a good year for the DXCC Leagues contest - a friendly award for members to challenge themselves and each other.

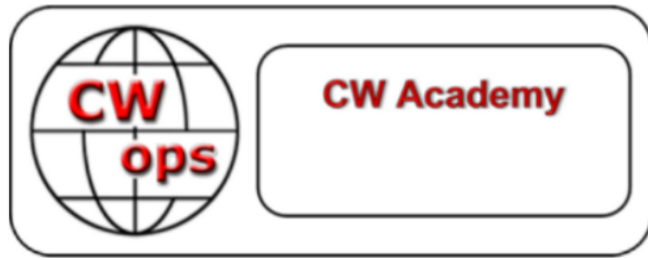
This informal and friendly competition is now into its 3rd or 4th year – I can't recall. Every year we see the numbers increase, both in terms of member participation, and also individual performances.



There isn't a prize per se, but it's a good time to review the tables and maybe set your own personal goals for 2026.

CW Ops and CW Academy

We are now over halfway through the semester. It is extremely rewarding to see the enthusiasm and improvement from all 17 students.



Beginners: This class is for those who are starting out, or maybe have a basic grasp of some CW. Through the eight weeks, students will learn to copy all 26 characters, 10 numerals, and 4 punctuation marks and start to develop Instant Character Recognition (ICR). By the end of the class all students will be copying up to 18-20WPM with Farnsworth speeds between 8-15 WPM. Good foundational skills for sending with a paddle are integral to this course.

Students in this class are coming along very well, and it's great to see so much enthusiasm and commitment.

Intermediate: At this level students know the code and have been on the air for a while. This class is focused on headcopy and well timed sending with a paddle. Students will be looking to achieve 20WPM both sending and receiving, and building confidence with on-air protocols in contests, POTA/SOTA/WWFF, DXing, and ragchews.

As with the Beginners' class, everyone is progressing extremely well with everyone now at 20WPM and the remaining weeks will be spent solidifying these skills.

Advanced: Students in the Advanced Class are aspiring to headcopy at 25WPM, strengthen sending skills, and gain exposure to all elements of CW at higher speeds. This including ragchewing, busting pileups, and smoothing out sending skills. It also includes building confidence with on-air experience and QSO protocols.

This is a fun class and all students are well on track to meet their personal goals.

Whatever your goals, CW Academy has a course that will fit your profile. If you're interested in learning or improving your Morse Code, check out CW Academy in more detail at <https://cwops.org/cw-academy/>

Drop me an email if you have questions or are interested in joining a class later in the year.

73, Chris VK3QB

CW Ops OC Ambassador

www.cwops.org

vk3qb@hotmail.com



News from ZL

By Philip ZL1PSH

2026 Jock White Memorial Field Day

The 2026 Jock White Memorial Field Day (JWMFD) will be Saturday February 28 and Sunday March 1. The contest is for NZART branches and home stations in the Oceania continent. Participants aim to work as many New Zealand stations as possible. Contacts can be made on the 40m and 80m bands using SSB and CW. There are 18 one-hour operating periods. In each period, a station can contact another station on both bands using both modes to give four contacts per station per operating period.

Since 2020, the only non-ZL operators in the JWMFD have been VK operators. Surprisingly, given the minimum signal to noise ratio for CW is considerably smaller than that for SSB, all but one of the QSOs made by these VK operators over the six years were SSB QSOs. (There was an average of 11 stations per year operating CW.)

I hope to see more CW QSOs by VK operators in this year's JMMFD. There is at least two good reasons for VK CW operators to participate. There is a separate section for overseas operators and there is a CW-only section.

The rules for the JWMFD are available on the [webpage](#) . The webpage includes links to the results for 2020 to 2025.

A success story

I believe activities such as antenna building and testing, junk sales, kit building and testing, social gatherings and vintage radio repair are important parts of amateur radio. However, I believe on-the-air activities are more important because these activities help protect the bands for future use by amateurs. That is why I am pleased to see the large increase in the number of activations of New Zealand outdoor features over the five years I have had my licence.

This large increase has two interdependent components.

First, there has been a large increase in the number of activators and chasers. Five years ago, most activations were on Saturday morning and early afternoon. Now there are activations throughout the week and in the early evening.

Second, there is a formal award program for more types of outdoor features to activate. These types include

- a) Huts
- b) Islands
- c) Lakes



- d) Lighthouses. These include beacons
- e) Parks: National parks, New Zealand parks, POTA, WWFF
- f) Summits: HEMA, SOTA
- g) Volcanoes

The large increase can be attributed mostly to the action of individuals and not to formal organisations. These individuals have promoted activations by creating Facebook pages and email lists and by organising activities such as SOTA days. In addition, Matt ZL4NVW created and continues to develop ZLOTA (ontheair.nz). To quote from the [ZLOTA user guide](#).

"The ontheair.nz website combines information for all current organised portable award programmes that operate in New Zealand. A one-stop-shop where you can see proposed activations (alerts) and current operations (spots) across all award programmes. A single place in which you can enter and upload logs for all schemes and track your progress in them. And home to the national ZL On the Air (ZLOTA) award programme."

Unlike SOTA where the most commonly-used mode is CW, the most commonly-used mode across the activations of a) to g) above is SSB by a large margin. Several activators use CW. To get the required number of contacts for a successful activation, CW activators will usually need contacts with overseas chasers or augment their contacts with those made using other modes.



RASA will make an effort to attend your Hamfest where we can. Australia is a big place, but sometimes we can do it.

We will also advertise your Hamfest or club activity in this magazine. Free. Everything we offer is free.

Contact RASA to find out how we can help.

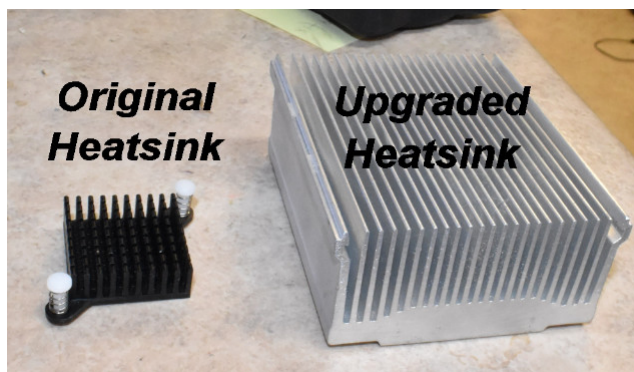
Our email address is info@vkradioamateurs.org

Reverse Beacon Node Upgrade

The Reverse Beacon Network (RBN) is an extensive collection of HF monitoring stations that looks for CW signals on multiple bands at the same time. When it finds them, it identifies the callsign, the location, the frequency, distance from the receiver and time of day. From the map plots generated it is possible to work out likely propagation conditions to key locations around the world. There are four monitoring stations in Australia and RASA sponsors the only one in Victoria with the callsign VK3RASA. This was made possible by a donation by the Fists DownUnder (FDU) CW support group. It simultaneously monitors the entirety of the 40M, 30M, 20M 17M, 15M, 12M and 10M bands.

The RASA node has been working well for the past 5 years, but in recent weeks it began shutting down at frequent intervals. As the receive station is located in a shed away from all nearby noise sources it is also subject to temperature extremes. The CPU in the Software Defined Radio (SDR) receiver has been overheating, despite the small cooling fan.

This week the original small heatsink has been discarded and replaced with a much larger heatsink with a dedicated fan. This upgrade appears to have worked and the node remained fully functional even with the 39 degree weather after Australia day. Its antenna is a basic dipole for both the 40M and 80M band in parallel, about 6 metres in the air.



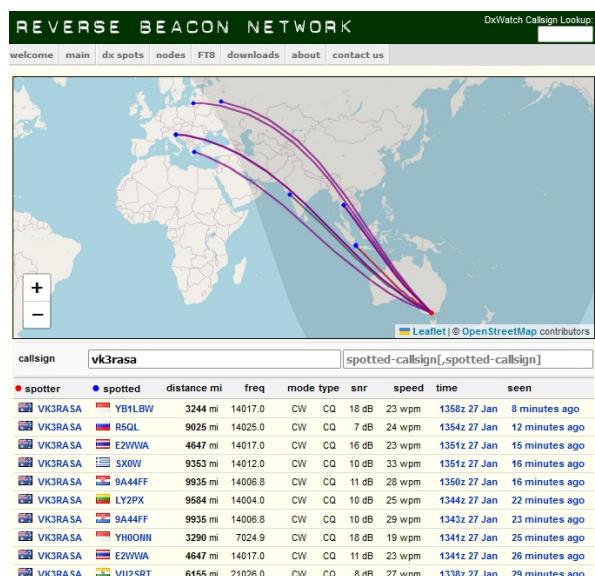
This



screen capture from the RBN site was taken during the hottest part of that day.

To access the site, visit <https://www.reversebeacon.net/index.php> then select MAIN and put VK3RASA into the Spotter callsign box to see what activity has been detected in recent minutes. If you live in Victoria, The spots that it detects will provide valuable clues as to what parts of the world are presently active on HF. It often picks up QRP stations in Europe, even with its simple antenna.

We hope that the modification will help to maintain this node for many years to come. It is another free resource available to all Amateurs, maintained through membership fees and kind donations by RASA members.



Foundation Classes And Foundation Exams Increasingly Popular

It is great to see the efforts of RASA to bring new people into our hobby taking shape.

Since its launch two years ago the Foundation Level Study Guide (FLSG) has become the preferred text for those attempting to gain a Foundation operator license. The guide has been focused, comprehensive, regularly updated and free. It has been downloaded thousands of times.

Many clubs and groups now reference this resource, including the Amateur support website, [Jules Workshop](#).

In January, this group of seven underwent a one-day study session utilising the FLSG text and matching powerpoint slide show. A week later, the same group undertook the Foundation exam with excellent results.

Two of the candidates achieved a 100% pass mark for the theory/regulations section and are now looking to upgrade to the next level.

Here Ian Jackson VK3BUF is hosting a study session in Drouin West (Victoria).



Ian is an ACMA volunteer Assessor, on the RASA board of directors, the education coordinator for the Cranbourne GGREC club and provides a free examination service to the East of Melbourne on the 3rd Saturday of each month.

The Foundation Licence Study Guide can be downloaded for free from the RASA website [here](#).

Clubs and Assessors can advertise their classes and services for free on the back page of the FLSG, and on the RASA website.

Simply send club and course details to info@vkradioamateurs.org - and don't forget to send updates when things change.

Enquiries about the exam service in Gippsland may be directed to: dwexams@gmail.com

A Fresh Look At The World Of Infra Red

By Ian Jackson VK3BUF

The things we can't see

Anyone who has grown up near a radio receiver or mobile phone accepts that it's an invisible medium that somehow works. If we use a magnetic lamp in say a car engine bay, we accept that the magnet is invisible sticky stuff that stops the lamp from dropping. Today, more than ever, we are surrounded by technology that uses forces mostly undetectable by the five human senses.

Go back a few centuries and there were far fewer artefacts around people that used these invisible forces, but here were always some. If you let go of an object, it doesn't hover, invisible gravity will pull it to the ground. When the sun is shining, we feel hotter from its invisible radiation than when it is covered by clouds. The air we breathe (unless you live in Beijing) is transparent. We can't tell if it is windy unless we feel the effect of its movement upon the skin or observe its influence upon grass and tree branches.

Human development is the history of observing forces that are not easily perceived. One such observation method is the world of infrared. The availability of cheap infrared cameras has given us the ability to observe heat intensity at a distance, even though direct observation is beyond the range of human vision. The technology lets us take a fresh look at everyday objects in common situations and we can see what's really going on.

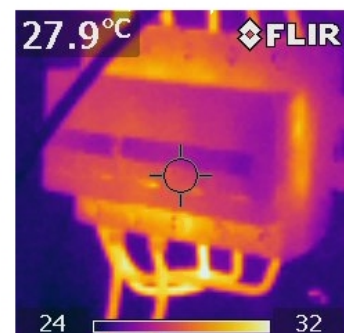
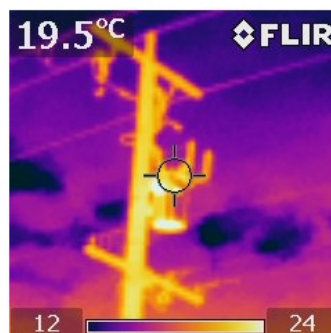
Infrared Cameras

The modern Infrared camera divides an image area into pixels and records a temperature for each pixel. This data is in turn converted to a colour projection where the coldest to the hottest reading is expressed as a colour gradient from dark blue through to bright yellow and white. Software within the cameras will automatically scale the image to match the extremes of the observed temperatures.



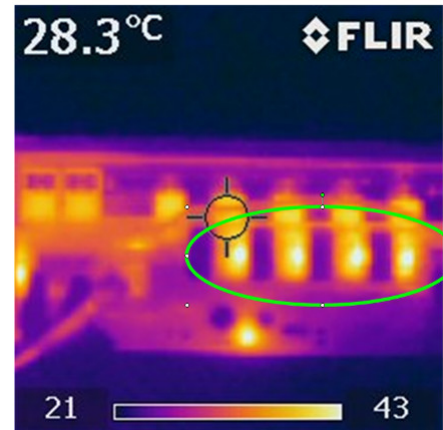
The breakthrough aspect of infrared as an investigative tool is that it enables *non-contact* observations. Most electronic components have a preferred working temperature of 60 degrees or less. Where components are defective or overloaded, such events are often accompanied by an elevated heat signature. An inspection under infrared can also identify poorly bonded terminals and connectors. A poor quality or loose electrical screw terminal will light up as a bright spot on circuit breakers and contactors within an electrical cabinet.

AC power infrastructure can be inspected with IR for anomalies. A corona discharge or arc between any two points will provide a highly visible heat signature under infrared when viewed safely from ground level.



It is common for inverters and motor drive units to have several MOSFETs in parallel. These are used to drive heavy loads. Correctly matching devices can be difficult. Unless the devices are carefully matched from the same production batch, individual MOSFETs can undergo current hogging or under-perform. Such problems can be hard to detect until the devices experience heavy loads over time. Infrared inspection can be used to confirm proper function of these devices as they should all heat up evenly when placed under load.

In this image, five MOSFETs in parallel drive DC motors in a golf cart. As can be seen in the circled area, all devices are exhibiting an even glow, a sign of proper current sharing.

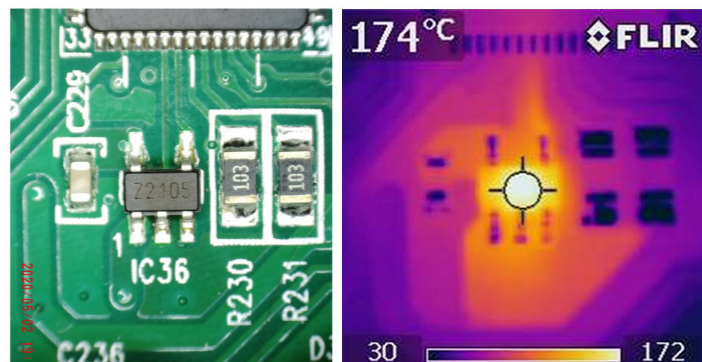


Unfortunately an infrared camera intended for long distance measurement will lack focus when getting close to the target. This can happen when inspecting surface mount components. A focusing lens is needed but normal glass is opaque to infrared and can't be used on an infrared camera. Focus for close-up work can be improved with special infrared transparent lenses made from zinc-selenide

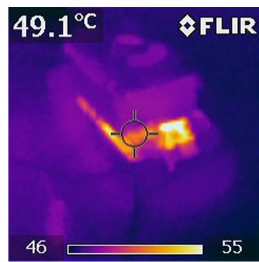


When such a lens is positioned in front of a FLIR camera, close images will significantly improve in sharpness.

In this example, a touch screen display was overheating and shutting down. The IR camera with the focusing lens quickly identified a chip that was sitting at 174 degrees.



Recently there was an issue with the SDR receiver used on the Reverse Beacon node VK3RASA where the CPU was shutting down on hot days. Replacing the original small heatsink with a much larger heatsink-fan combination has made a big improvement to performance.



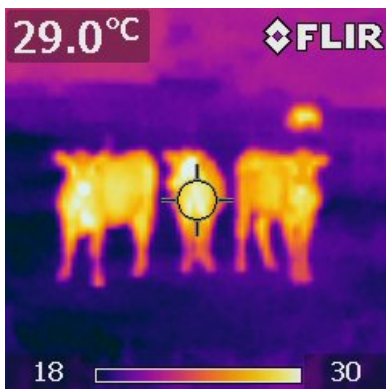
These images were taken on a 40 degree day near the end of January. The IR image shows the CPU operating nicely within normal tolerances.

Advanced IR cameras with combined imaging

There are different kinds of infrared camera. The more you pay, the better the resolution you have. Another advanced feature of some cameras is the integration of a visible light image overlaid on the infrared camera so that the optical outline of objects are superimposed upon the thermal view. This effect can be seen with the hot kettle in this image.



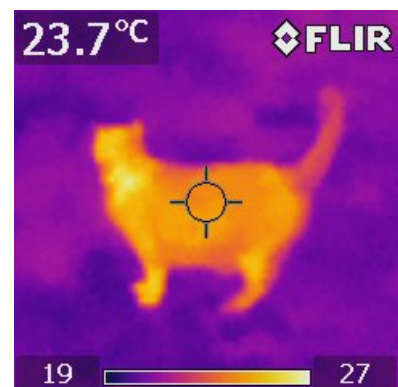
Lets look at some other creative applications of infrared



Did black cows escape from their paddock at night? They can be hard to find, even with a spotlight. They can't escape from IR imaging.

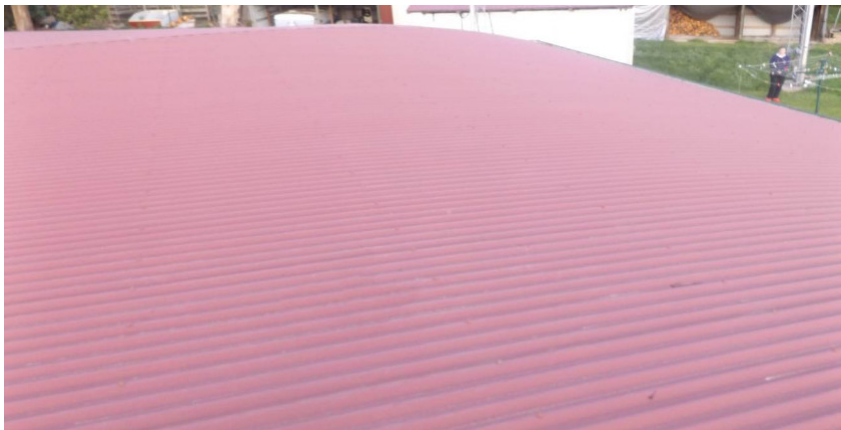
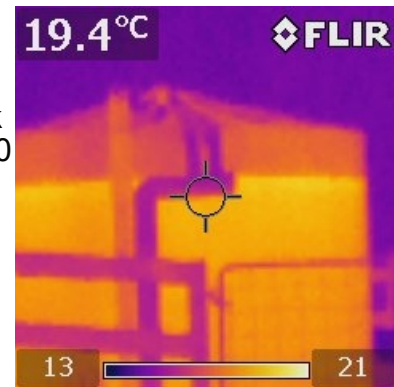
To pee or not to pee...

A cat was accidentally locked in a room overnight. Did it pee on the carpet? If not, then fine. Well done cat. However if it did take a whiz and the spot isn't treated, then after a week, it's gonna stink for a long time! A quick scan with an infrared will tell the story. The wet spot will be initially hot, then cool down rapidly as a cold spot and be detectable for up to 24 hours.



How much water is in that water tank?

Are we running out? We can get a ladder and a dip-stick and check the level of wetness... or we can stand back 50 metres with an infrared camera and look for the thermal gradient difference for above and below the waterline. This works on concrete, steel and plastic tanks.



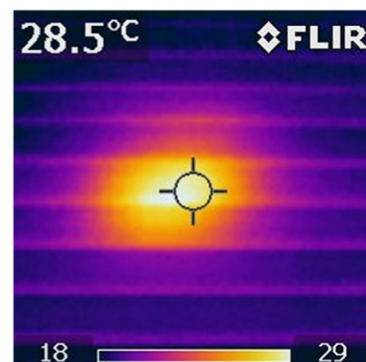
The Skylight challenge

The plan was to install a round skylight into a corrugated iron roof, but I wanted to make the hole in exactly the right spot, away from trusses and battens. On the roof, it all looks the same. I didn't want to make exploratory holes that would have to be sealed up later.

Inside the ceiling space I positioned an old incandescent 12V spotlight above the plaster ceiling where the hole would have to go. The light shone on the underside of the roof, then some of the ceiling foil was removed.

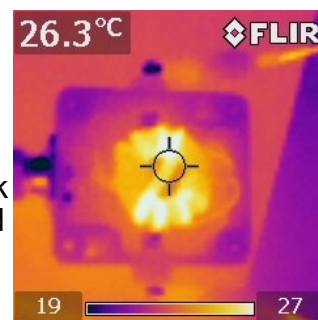


Back on the roof, the thermal signature of the warm spotlight was easy to locate and the skylight was fitted without difficulty.



Is that balun going to work, or cook?

Radio amateurs like to make baluns. It's one of those quirky things we do that make non-amateurs shake their heads in consternation. Still, we also want to know if it is going to work without overheating on our 6M band transceiver. Yes, infrared to the rescue.



Add Infrared imaging to your mobile phone

A great phone accessory is to add an external camera to your mobile via the USB-C socket and use the combination for some quality infrared imaging. The **P3 Thermal master** is available for under \$500.

The human senses are incredible. Working in concert they are tools of discovery that have allowed us to advance at a staggering rate. But then it highlights that we miss out on much that is going on around us. Ultrasonic sounds and imaging combined with magnetic scans have allowed us to investigate what's happening inside the human body and sealed machinery. So much of what we use daily relies upon these invisible technologies and we take much of it for granted. That doesn't make it magic. Or to quote Terry Pratchett "*Any sufficiently advanced magic is indistinguishable from science.*"

Est. 1990
03 5996 3298 or 0417 050 879



G&C

Communications Pty Ltd

Po Box 53
Leongatha VIC 3953

Commercial, UHF CB, Amateur & Marine
Two-Way Radio Communications Sales & Service
Antenna, Cables & Accessories






Shop Online: www.gccomm.com.au

RASA DX Contest 2025 Prize - Begali paddle

Firstly, I'm so thankful to the organisers of the 2025 RASA DX Contest for such a wonderful prize!

I could never have justified a paddle purchase, of this kind, to the XYL. My other two paddles are both made in China, and much more lightweight. While they have their strengths, for the most part, they are left in the dust.

Well, what can I say, build quality really does matter!

So, how was it to operate?

The Begali Simplex Pro is spring loaded, but because it's so well built, I'm finding it very smooth to operate. The base is heavy enough not to move on the desk, and the keying feels very precise to me.



My first QSO with it, was a short one, to Palau, T88SM. I didn't have to worry about the key sticking, missing, or anything like that. It responded well to my keying. It has longer paddle arms than I'm used to, which means that only a light movement is needed. It was great to use, and I haven't needed to adjust it, because it came already set up.

Overall, I'm very impressed, and thankful.

So from now on, if you hear me on the air, I'll probably be using the Begali Simplex Pro.

73

Derek, VK4DRK

Elite

Communications & Electronics

www.elitecommunications.com.au

END OF SEASON

SUMMER SALE

LIMITED TIME ONLY

UP TO
50% OFF

VALID: 1/2/26 to 28/2/26

SCAN
ME



OPEN: Monday to Friday - 9am to 4pm
Saturday: By Appointment
CLOSED: Sunday & Public Holidays

DELIVERING AUSTRALIA WIDE
(07) 5605 2000





Saturday 7th March 2026



11.00am – 3.00pm (Sellers from 9.00am)



Frost Park (Mt Barker Racecourse)

McDonald Ave, Mt Barker

Entry: \$5.00 for buyers & sellers.

- ❖ Sellers reserve your table by emailing reservations@hamradio.org.au before 28 Feb 2026
- ❖ Food & Drinks are available at local Mt Barker cafes & bakery (900 metres) and support local businesses.

Call in on VK6RAA Mt Barker 70cm repeater – 439.950MHz (-7.00MHz offset)



Southern Electronics Group Inc. | www.hamradio.org.au | vk6sr@hamradio.org.au

Promote Your Club's Training Courses

Does your club conduct training courses for Amateur Radio qualifications?

When a person is looking for a training course to gain or improve their Amateur Radio qualifications, they often do not know where to start looking for somewhere to do a course of study.

There is a lot to be said about learning in a group environment - a person will forge new friendships and learn of resources they can tap into, especially when they are a newcomer to the hobby.

Face to face Amateur Radio courses in Australia are conducted by Amateur Radio clubs. As a service to clubs conducting courses, and to those seeking them, RASA will advertise courses both on our website, and on the back page of the Foundation Licence Study Guide.

This service is free. Simply send your club's information by email to RASA - the email address is info@vkradioamateurs.org - the information should contain the club's name, location, web address for course information, and contact details.

Advertise Club Activities

Clubs may advertise their forthcoming activities in QTC magazine. Advertisements may be half page or full page. Simply send your advertisement as a PDF. A full page image is 160mm wide and 247 high. This size allows for our 25mm page margins.

Don't fret too much about size, as long as you get close to size, and close to the aspect ratio (1:141), we can adjust the size.

Make your graphics no more than 200 DPI.



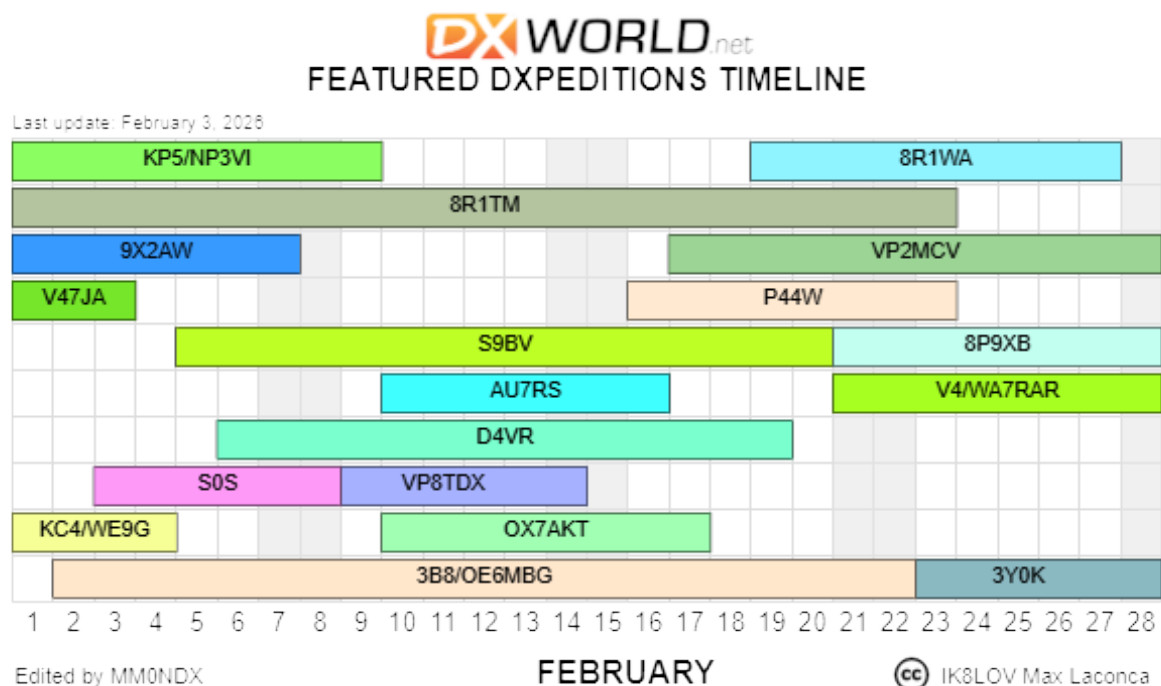
Your advertisement may contain hot links and QR Codes.

Club event advertisements are free. We will run advertisements for up to three editions prior to your event. Talk to us if your requirements are different.

Send your copy as a PDF attached to an email to info@vkradioamateurs.org with instructions as to how you wish to run the advertisement.

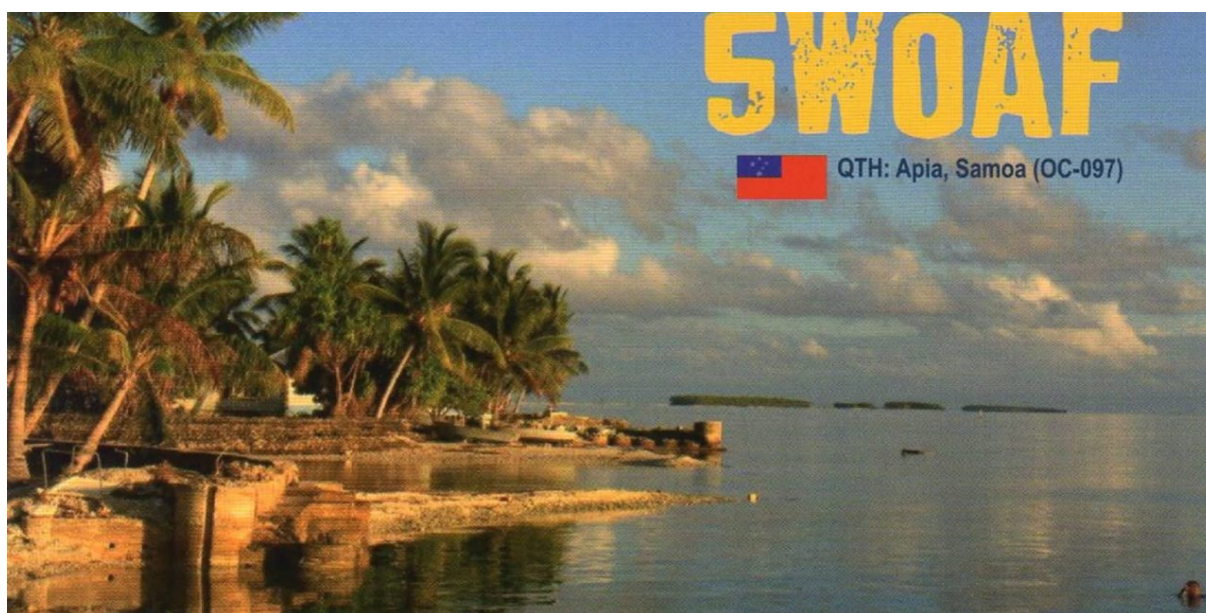
The deadline for copy is the 4th day of the month.

DX Happenings



Click on the image to visit the DXWorld website

This is small sample of Dxpeditons promoted at DXWorld:



Jacek, SP5EAQ informs DX-WORLD that he plans to activate Samoa for a period of three weeks starting on 22 March, operating SSB exclusively.

Operations will cover all bands from 10 to 40 meters, with a possibility of limited activity on 80 meters. As with his previous operations, this will be a single-operator activation using his former callsign, 5W0AF. The website is [here](#).

Contesting

By Bob Bristow VK6POP

Contests are an effective, enjoyable way for you to develop or improve your Amateur Radio skills. By participating in contests, you:

- Test your station's capabilities, and improve the antennas, fine tune the station layout and so forth.
- Develop and improve your on-air capabilities, such as microphone skills, working a pileup, getting CW experience, or mastering digital modes.
- Help others to do the same by operating a multi-op station.

You can do a contest from home, the club shack, or portable in a park, or a campsite. It's your choice, whatever suits you best.

Contests are a good way to inject a bit of life into a club. Clubs sometimes get into the doldrums, and a weekend, or even a single day in the shack with a bunch of people works wonders. It's not difficult to organise, so have a go.

What's On?

If you look at an Amateur Radio contesting calendar, such as [this one](#) that is maintained by Alan VK4SN, you'll notice that there are contests almost every weekend. You can't enter them all (well you could TRY), however you **can** have a go at some that interest you. You don't even have to do the whole 24 hour - just do as much time as you're prepared or able to do.

VK4SN Contest Calendar

Times on this calendar are UTC. Latest update = 22/04/2025

1. Google Calendar. 2. Popular contests chart/s. 3. WIA contest breakdown.

Today

< > Feb – Jul 2026

Schedule

5	FEB, THU		
14	FEB, SAT	● All day	CQ WPX RTTY (Day 1/2)
15	FEB, SUN	● Until 23:59 ● 10:00 – 22:00	CQ WPX RTTY (Day 2/2) YOTA
21	FEB, SAT	● All day	ARRL DX CW (Day 1/2)
22	FEB, SUN	● Until 23:59	ARRL DX CW (Day 2/2)
27	FEB, FRI	● All day	CQWW 160M SSB (Day 1/3)
28	FEB, SAT	● All day	CQWW 160M SSB (Day 2/3)
1	MAR, SUN	● All day	CQWW 160M SSB (Day 3/3)
7	MAR, SAT	● All day	ARRL DX SSB (Day 1/2)

The John Moyle Memorial Field Days

The John Moyle Contest is on the third weekend in March and this year it's on the 21st and 22nd of March. That is about seven weeks, giving you the time to decide on how you'll tackle the contest, where you'll do it (The JMMFD is principally a portable contest), whether at home, a club shack, or fully portable somewhere.

There are some major changes to the contest rules from previous years, and you should ensure that your equipment will do you proud.

These changes are:

- Multipliers.

The contest managers have introduced multipliers into the scoring for the contest. This is a good thing. It forces contestants to be more strategic in order to make a competitive score.

The multipliers are based on callsign prefixes, and these are limited to VK, P2 and ZL prefixes. The more multipliers you collect in each three hour block, the greater your score.

- Multi Operator Home Stations are now allowed.
- It is no longer practical to use VK Contest Logger, as it doesn't "know" the new rules, and cannot export a log in the required Cabrillo format for VK Logchecker. The recommended logger to use is N1MM, and the contest configuration files (UDCs) can be downloaded from vk4sn.com.
- The complete set of rules for the contest is available from the WIA Website.



RASA
Needs Your Support

The Radio Amateur Society of Australia

Foundation Level Study Guide

QRM.guru
Resolving interference for Amateur Radio

Welcome to Amateur Radio
A Guidebook for newcomers

QTC
Your Gateway to the World of Amateur Radio

Amateur Radio provides virtually unlimited opportunities for you to explore the technical, scientific and social aspects of this truly global hobby.

Click Here to Donate or Pay membership

RASA PRODUCES HUGE RESULTS FROM A TINY BUDGET.

Foundation Level Study Guide
QTC Magazine
QRM Guru,
VKRegs
Representation to Government

A Free Amateur Radio Learning Resource

This multimedia learning resource has been developed by RASA and is provided free of charge.

RASA relies on member fees and donations, so that we can offer our resources free to everyone. We're inviting you to sign up or renew your membership, or simply donate. You can do this at our website: vkradioamateurs.org